

10

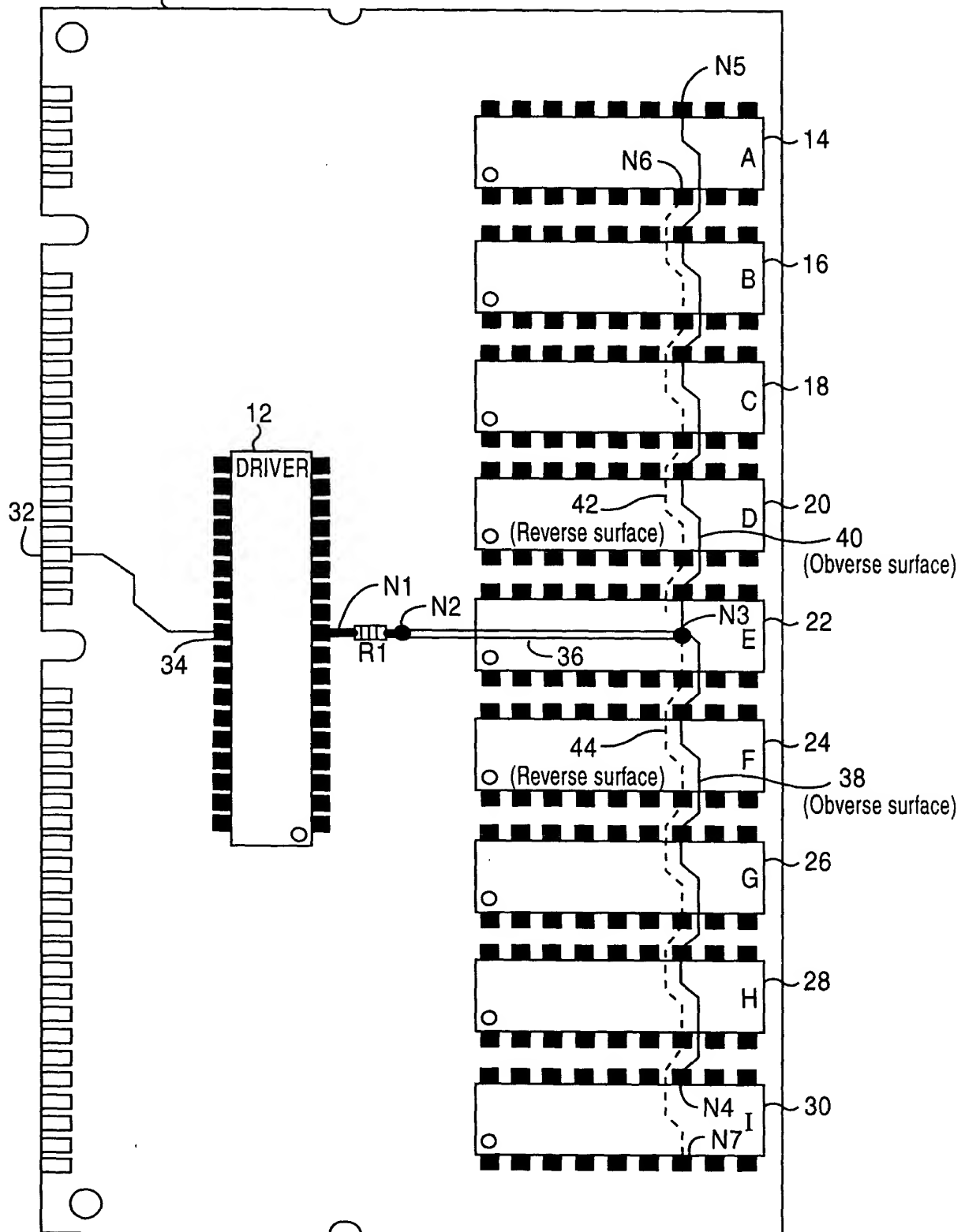




FIG. 2

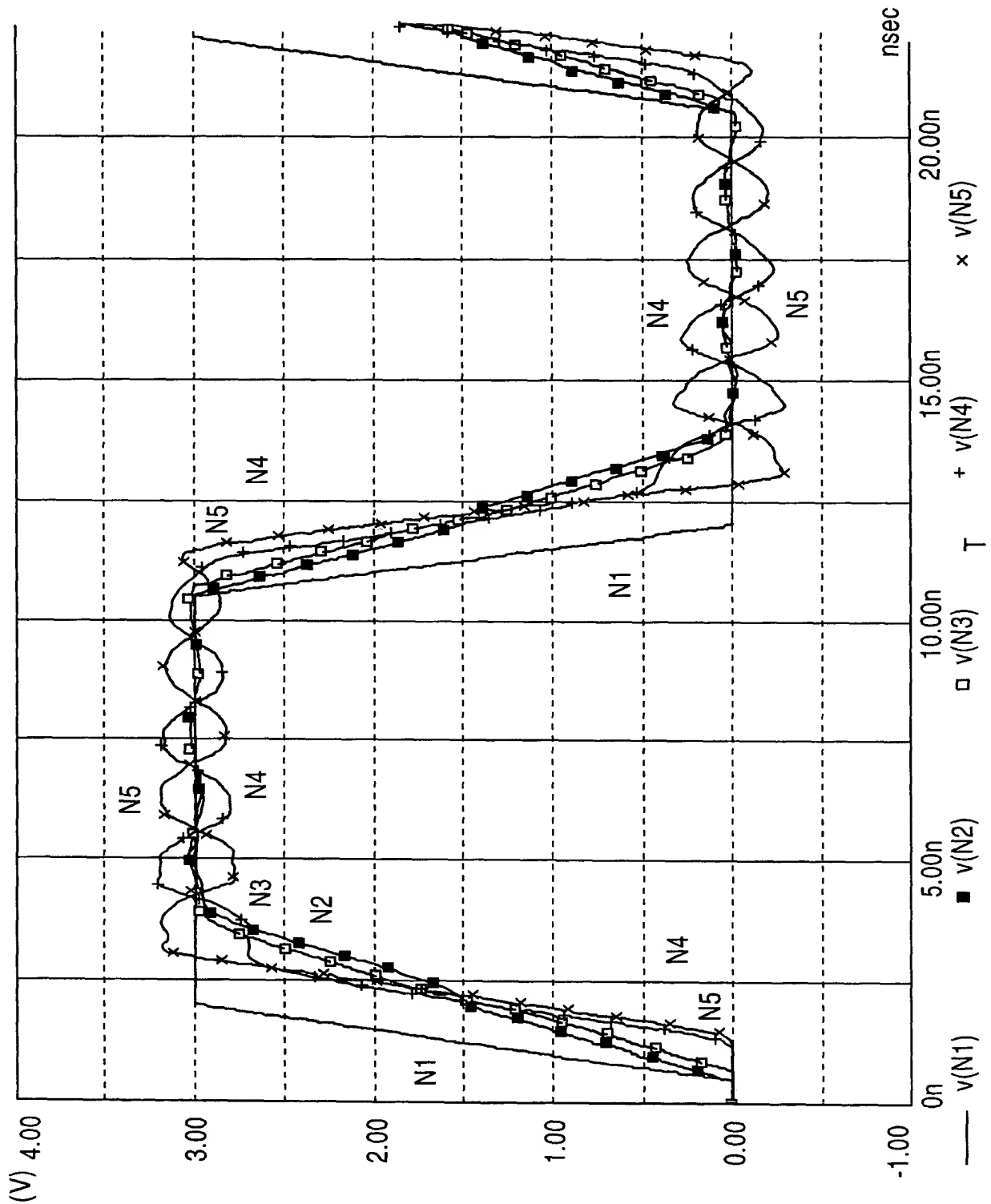
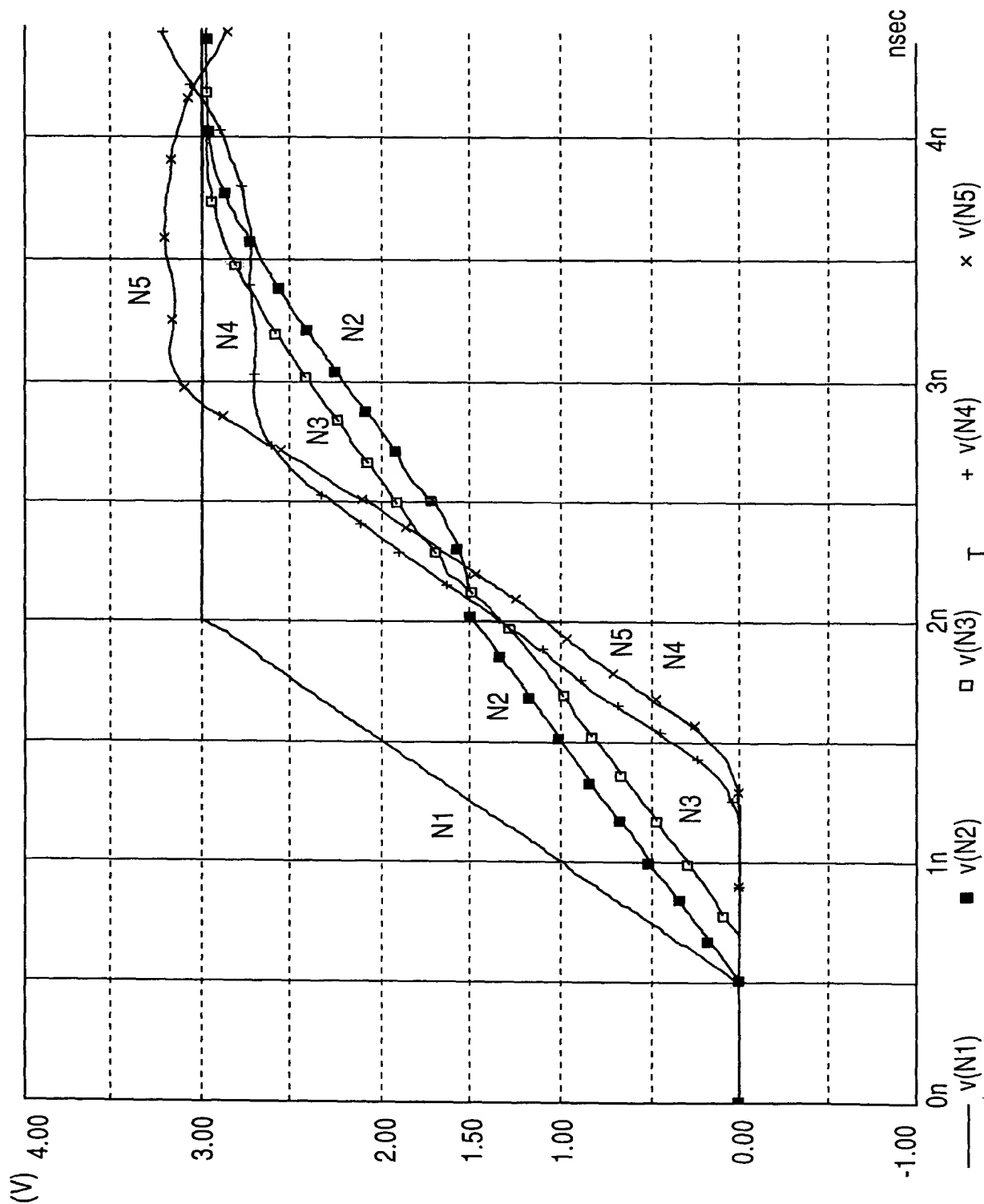




FIG. 3



## FIRST EMBODIMENT

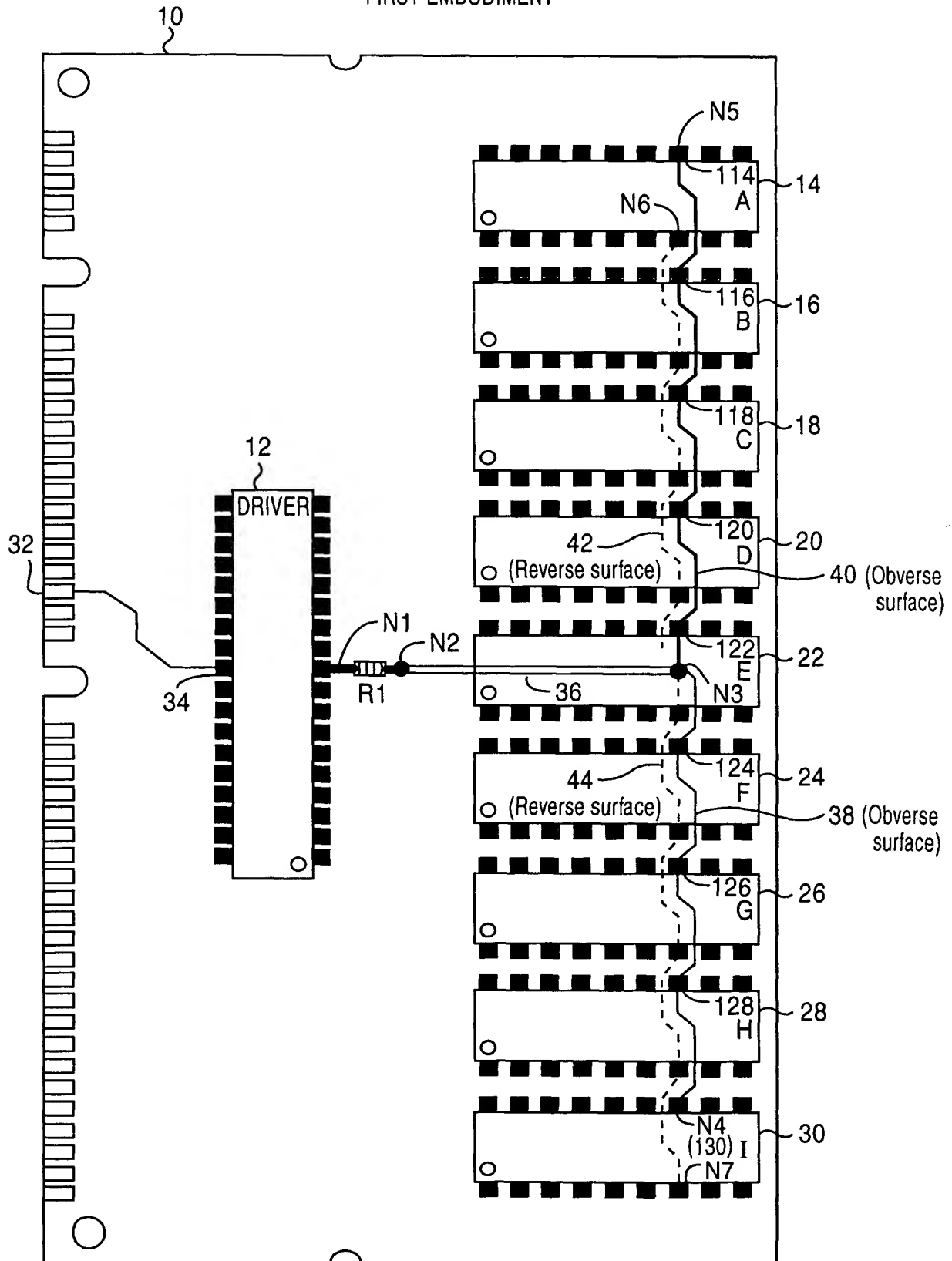
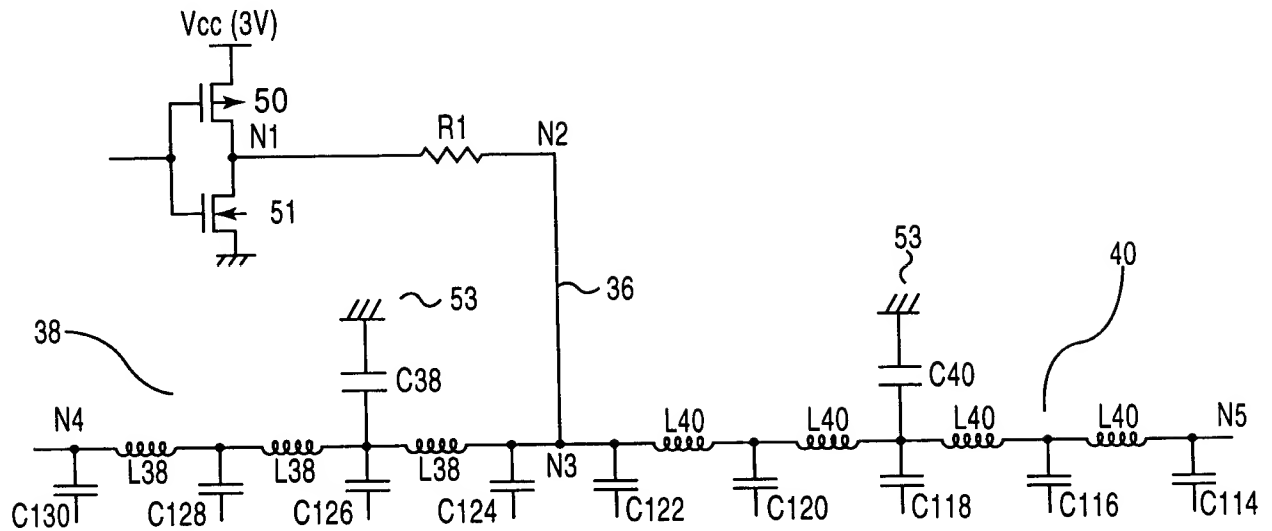




FIG. 5



$$T_d = \sqrt{L_o(C_o + C_d)}$$

$$Z_o = \sqrt{\frac{L_o}{C_o + C_d}}$$

$$C_o = C_{38} \text{ or } C_{40}$$

$$C_d = C_{124} + C_{126} + C_{128} + C_{130}$$

or

$$= C_{114} + C_{116} + C_{118} + C_{120} + C_{122}$$



## FIG. 6

### SIGNAL TRANSMISSION PERIOD TO WIDTHS FOR BRANCHED SIGNAL LINES

Width of branched signal line	Cd PF/m	Co PF/m	Lo nH/m	Zo $\Omega$	Td ns/m	Td1 ns/m
0.05 mm	250	71	520	85.6	6.08	12.92
0.10 mm	250	82	450	74.1	6.07	12.22
0.20 mm	250	109	356	57.1	6.23	11.31
0.40 mm	250	159	263	40.7	6.47	10.37
0.80 mm	250	252	173	26.2	6.60	9.32



FIG. 7

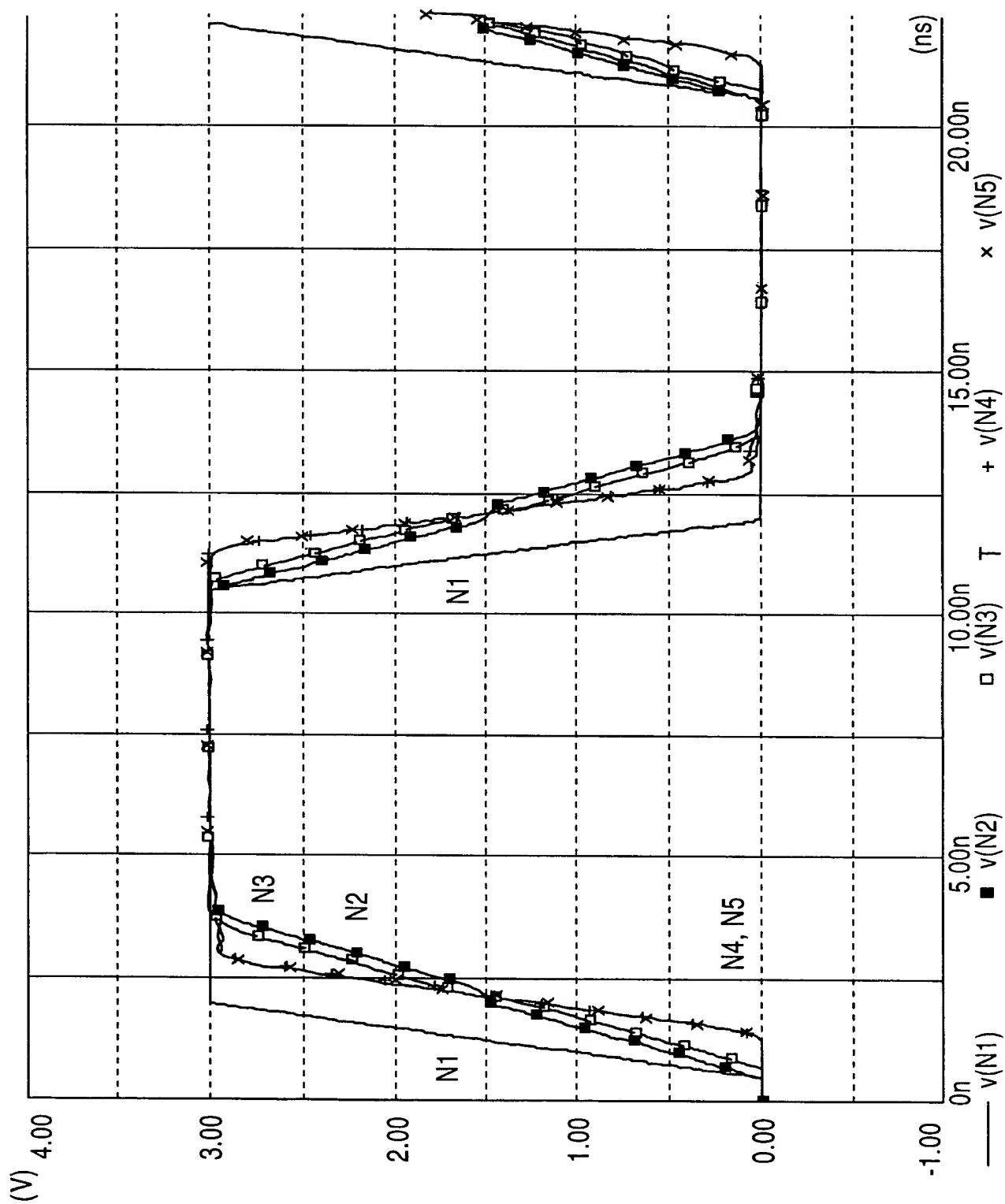
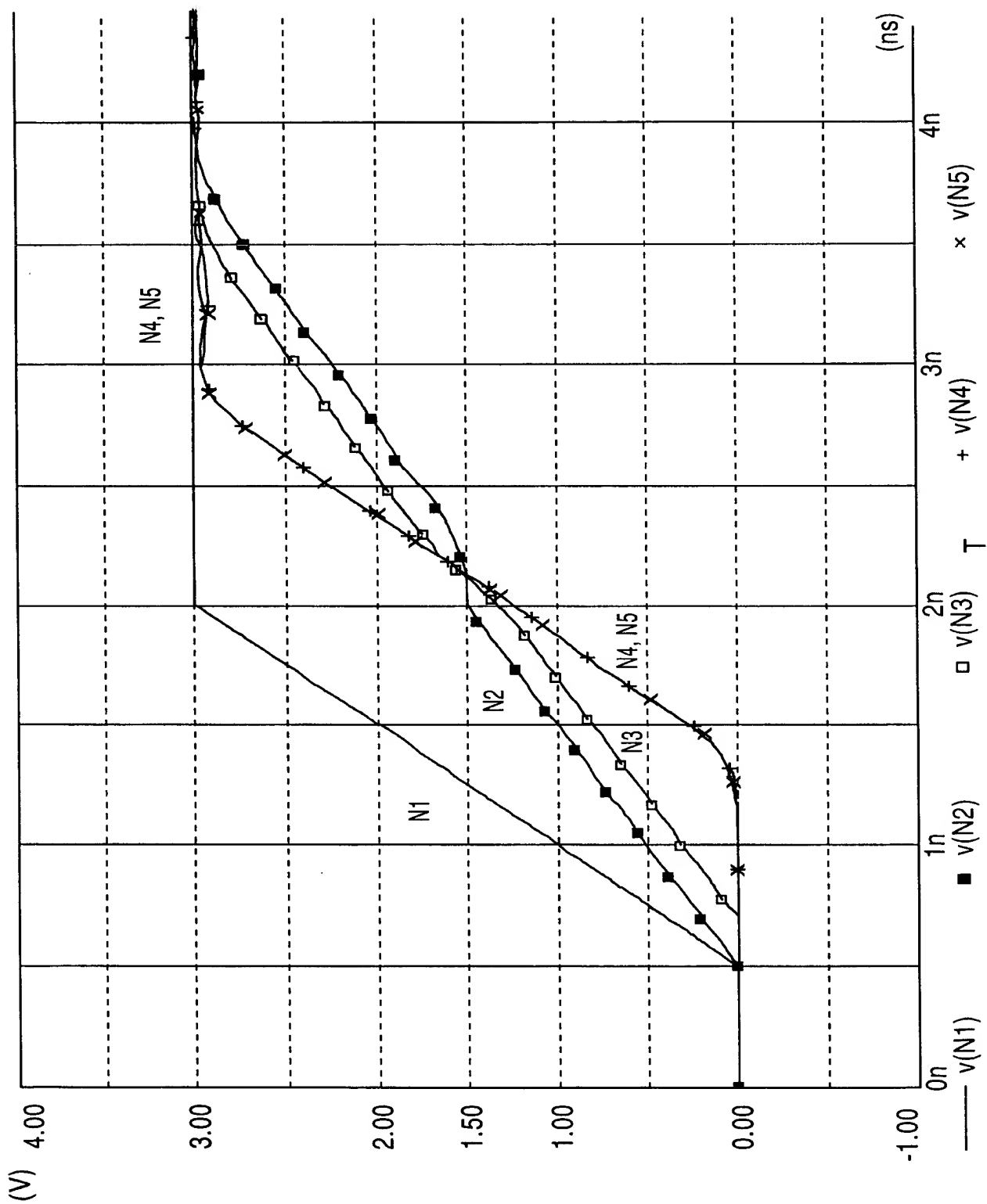




FIG. 8







**FIG. 9**  
 SECOND EMBODIMENT

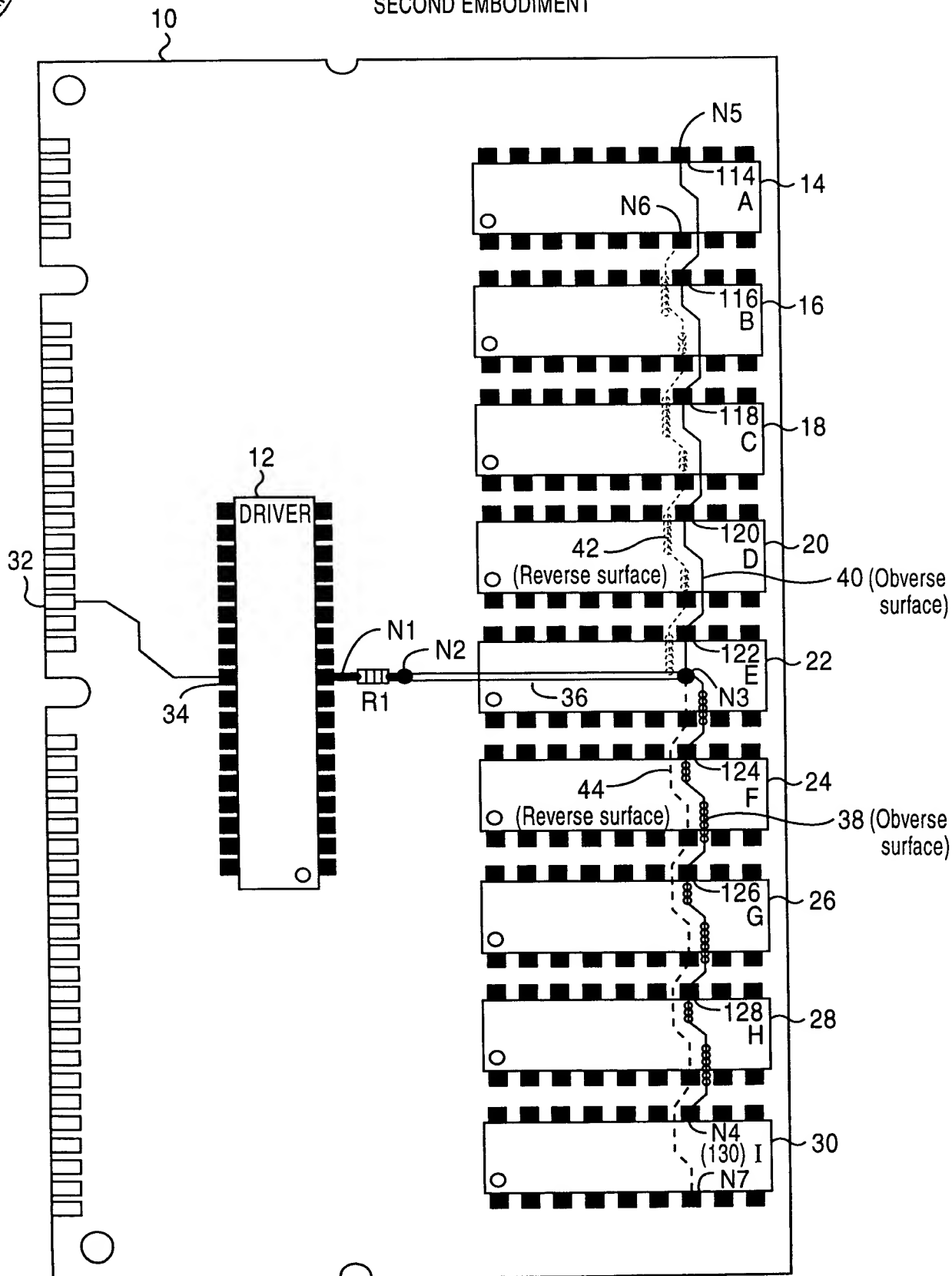




FIG. 10

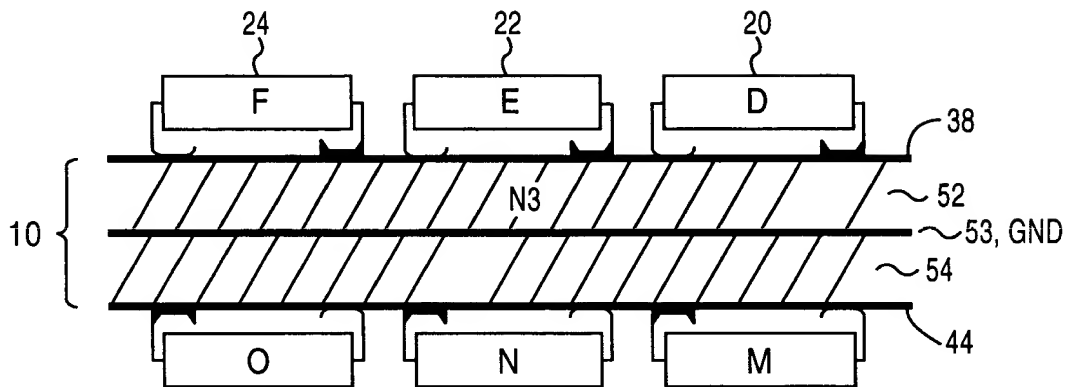


FIG. 11

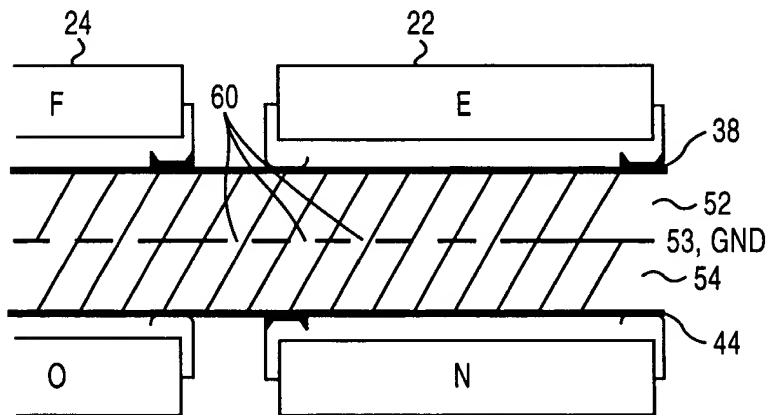




FIG. 12

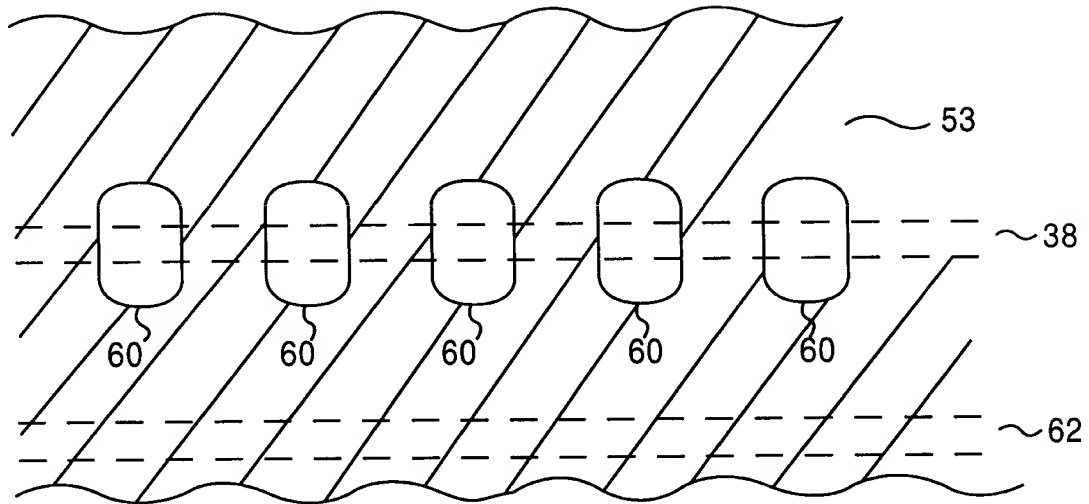
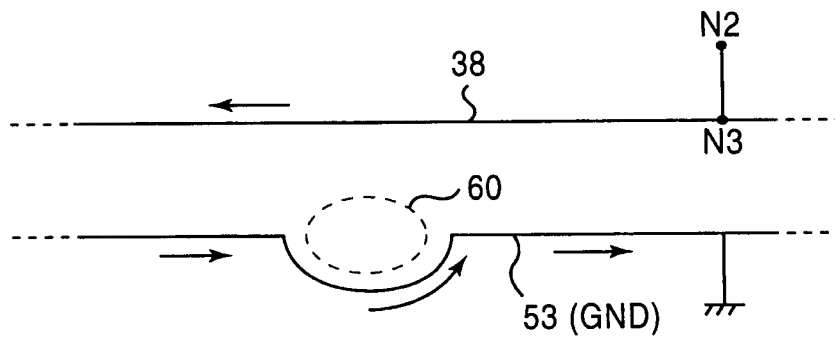
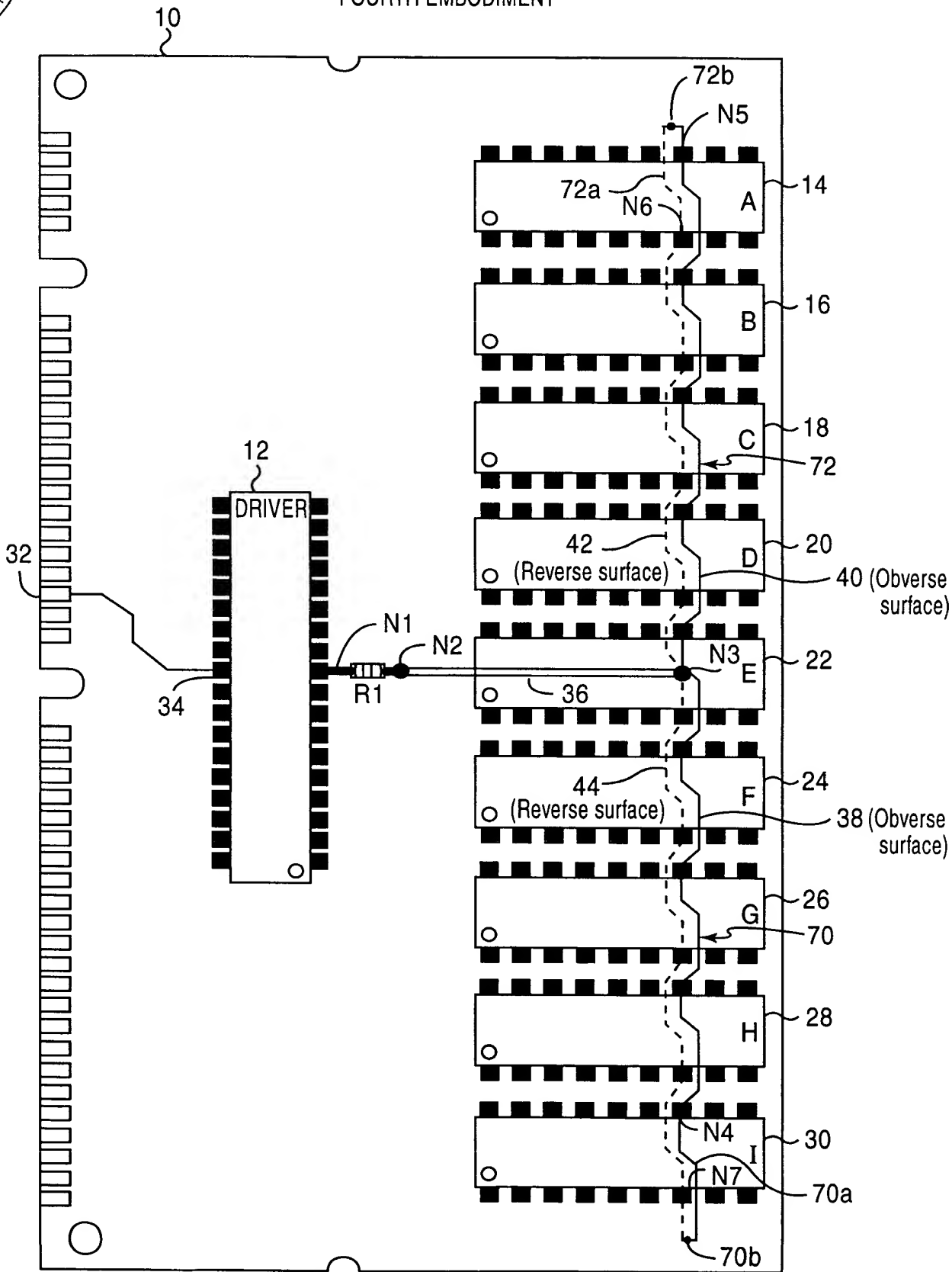


FIG. 13





#### FOURTH EMBODIMENT



## EQUIVALENT CIRCUIT FOR SIGNAL LINES

